

METHOD FOR RECEIVING AND SHIPPING ITEMS

(1) FIELD OF THE INVENTION

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The present invention generally relates to a method for receiving and shipping items and more particularly to a method for receiving manufactured items, such as vehicles which are to be transported to a variety of
10 desired destinations, for efficiently sorting these received items in a manner which substantially increases the likelihood that these items will be respectively transported to these certain desired destinations, and for efficiently shipping these sorted items to these
15 desired destinations.

(2) BACKGROUND OF THE INVENTION

Items, such as vehicles, are usually transported to and temporarily stored within a relatively large yard or
20 "staging area" which is relatively close to the manufacturing plant at which the vehicles were created. These vehicles or other items are respectively required to be shipped to a wide variety of locations or destinations and typically remain in the yard until
25 placed upon a truck, railcar, or other vehicle or conveyance for transport to their respective destination.

Typically, vehicles are driven into the yard as they are created by the manufacturing plant. The respective

destination of each of these vehicles is usually coded and contained within or placed upon a route code label which is selectively attached to the "passenger side window" of each of the respective vehicles. Oftentimes, these vehicles are placed at any convenient location within the yard and substantially no record is maintained of the current location of each of the vehicles within the yard.

Hence, one or more individuals are typically required to frequently "search the yard" in order to identify groups of vehicles which are "bound for" or which are to be transported to the same destination. Such "manual identification" or manual sorting not only undesirably increases the amount of time required to ship these vehicles but further increases the likelihood of error, thereby causing some of the vehicles to be transported to an incorrect destination. Further, this arrangement does not allow a certain vehicle to be quickly and easily identified within the yard in order to allow the vehicle to be serviced before shipment. For example and without limitation, certain quality concerns may arise relative to certain components contained within a manufactured vehicle after it has been placed into the yard but before it has been shipped, thereby necessitating a repair or modification of the temporarily stored vehicle. Hence, it is highly desirable to allow a

vehicle to be quickly identified in order to allow the vehicle to be serviced and/or modified before it is shipped.

A number of transport conveyances or railcars are also typically present in close proximity to the yard and are selectively and cooperatively used to transport these vehicles to the respectively required and desired destinations. Each of these conveyances and/or railcars must typically be manually identified by these individuals and correctly associated with a certain destination (i.e. each conveyance or railcar is to travel to a certain destination from the yard and each of these respective destinations must be manually and correctly identified and used with the vehicle destination information to determine the identity of those vehicles which are respectively "loaded onto" each of the conveyances or railcars). Such manual identification not only undesirably increases the overall time and the cost of shipping such vehicles, but also undesirably increases the likelihood of shipment error.

There is therefore a need for a new and improved method for receiving and shipping items which overcomes at least some of the previously delineated drawbacks of prior methods.

SUMMARY OF THE INVENTION

It is a first object of the present invention to provide a method for receiving and shipping items which overcomes at least some of the previously delineated drawbacks of prior methods.

5 It is a second object of the present invention to provide a method for receiving and shipping items which overcomes at least some of the previously delineated drawbacks of prior methods and which provides a substantially accurate indication of the location of each
10 received item within a storage yard.

It is a third object of the present invention to provide a method for receiving and shipping items which overcomes at least some of the previously delineated drawbacks of prior methods and which automatically
15 identifies each of the vehicles, conveyances, and/or railcars which are to transport these items and their respective final destinations.

It is a fourth object of the present invention to provide a method for receiving and shipping items which
20 overcomes at least some of the previously delineated drawbacks of prior methods and which automatically identifies a desired destination for each of the items and which further automatically and/or electronically stores the location of each of the items within a storage
25 yard or facility.

According to a first aspect of the present invention, a method for receiving goods is provided. The method comprises the steps of providing a yard; receiving an item; placing the item at a certain location within the yard; and storing the certain location, effective to
5 allow the item to be quickly located.

According to a second aspect of the present invention a method for shipping an item to a certain destination is provided. The method comprises the steps
10 of providing a unique identification code for the item; providing a second unique identification code for the destination; providing a device; communicating the first and second unique identification codes to the device, thereby allowing the item to be shipped to the certain
15 destination.

These and other aspects, features, and advantages of the present invention will become apparent from a reading of the following detailed description of the preferred embodiment of the invention and by reference to the
20 following drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is a flowchart illustrating the sequence of steps included within and/or comprising the methodology
25 of the preferred embodiment of the invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT OF THE
INVENTION

Referring now to Figure 1, there is shown a flowchart 10 which illustrates the sequence of operational steps which are included within and/or which cooperatively comprise the methodology of the preferred embodiment of the invention.

Particularly, flowchart and/or methodology 10 begins with an initial step 12 in which a unique identification number is assigned to each manufactured or created item, such as a vehicle. It should be appreciated that while the following discussion describes the use of methodology 10 with manufactured vehicles, the methodology 10 may similarly be used with a variety of other manufactured and/or created items and that nothing in this application should limit the applicability of the methodology 10 to only use with vehicles. Step 14 follows step 12 and, in this step, each unique vehicle identification code is stored within a computerized or electronic database.

Step 16 follows step 14 and, in this step, a second unique identification number is assigned to each manufactured vehicle and each manufactured vehicle receives a selectively readable device or "tag" assembly which is disposed upon or coupled to the vehicle. In one embodiment, this tag comprises a location determination device (e.g., a transceiver or transponder) which may

- selectively transmit geographic coordinates corresponding to the present location of the vehicle or which may be used within a system which selectively interrogates the tag effective to allow the vehicle locations to be
5 identified. One example of such a "tag" or location system is described within United States Patent Number 5,920,287 (the '287 patent) which is fully and completely incorporated herein by reference. Each such tag may also include a "bar code" type storage device which may
10 selectively receive and store desired information and which may be selectively read by a "bar code" type or optical scanner.

Particularly, each such tag assembly or device stores the second unique identification code associated
15 with and/or uniquely identifying the vehicle upon which the tag is contained or disposed. Moreover, in this step, each first unique vehicle identification code is associated with or "cross referenced to" one of the second unique identification codes within the stored
20 database. In the preferred embodiment of the invention, the device may be "read" or automatically scanned as the vehicle enters a storage yard or reception area. In this manner, each vehicle has a first and a second unique and selectively readable identification code.

25 Step 18 follows step 16 and, in this step, a third identification code is assigned to each of the

manufactured vehicles or received items and is respectively indicative of the destination of each such vehicle. The third identification code is stored within the database and may also be stored within the location
5 determination device or tag assembly. Hence, at the conclusion of step 18, each manufactured vehicle may be selectively referenced within a relational or computer database by use of a stored first, second, and third identification code.

10 Step 20 follows step 18 and, in this step, each of the manufactured vehicles is associated with and/or "cross referenced" to a fourth identification code which indicates the status of the vehicle.

For example, it may be desirable to allow the
15 manufacturing plant to remove a vehicle from the yard within a certain amount of time after the vehicle has been delivered in order to allow the plant personnel to service or repair on the vehicle. Moreover, it may also be desirable to allow plant personnel or other
20 individuals or entities to place a "hold" condition on the vehicle in order to prevent the vehicle from being shipped due to some identified and potential malfunction. In the preferred embodiment of the invention, only manufactured vehicles having a certain status may be
25 shipped and the respective status may be selectively

placed within each of the respective tags (i.e., stored as the fourth identification code).

Step 22 follows step 20 and, in this step, each vehicle is assigned a fifth identification code which is
5 respectively indicative of the vehicle's location within the yard. This location code is altered or modified as the vehicle is moved within the yard. Alternatively, as previously delineated, each tag is adapted to selectively provide this information upon receipt of a request or
10 query type command from a device or a system such as that described within the '287 patent, which allows this "location information" to be selectively obtained. Any of the identification codes assigned to the vehicles may be changed or altered automatically and electronically to
15 reflect a change in status, destination or location within the yard. Step 24 follows step 22 and, in this step, each of the various transport carriers and/or conveyances are identified.

Step 26 follows step 24 and, in this step, each
20 vehicle is assigned to one of previously identified transport conveyances or railcars by a computer or by a dispatcher by use of one or more of the previously delineated identification numbers. That is, each "shippable vehicle" (i.e. each vehicle having a certain
25 "shippable" status) is assigned to one of the transport conveyances or railcars such that a vehicle is placed

upon a railcar or transport conveyances having a
respective destination which is substantially similar to
the destination of that vehicle. In one embodiment of the
invention, a list may be automatically and selectively
5 generated in order to substantially ensure that the
vehicles are correctly "matched" to the railcars and
transport conveyances (i.e., a list of all vehicles
required to be transported to each respective destination
is created). Further, in another non-limiting embodiment,
10 a sixth identification number is assigned to each vehicle
and this number, having a selected one of several values,
indicates whether a vehicle has been transported or
shipped from the yard, thereby allowing a record to be
created of the transportation status of each vehicle.
15 Moreover, each readable device or "tag" is removed from
each vehicle before the vehicle is shipped and may be
used with newly received vehicles in the previously
delineated manner.

It should be realized that the invention is not
20 limited to the exact construction which has been
described above, but that various changes may be made
without departing from the spirit and the scope of the
invention as is more fully delineated within the
following claims.